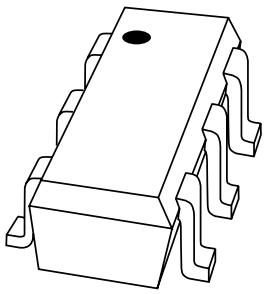
查询BGA2022供应商

DATA SHEET



BGA2022
MMIC mixer

Objective specification
Supersedes data of 1999 Feb 25

1999 Jul 23

Philips
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MMIC mixer BGA2022

FEATURES

- Large frequency range:
  - Cellular band (900 MHz)
  - PCS band (1900 MHz)
  - WLAN band (2.4 GHz).
- High isolation
- High linearity
- High conversion gain.

APPLICATIONS

Receiver side of wireless systems that require high conversion gain and high linearity at low supply current, such as CDMA. Trade-off between gain and intermodulation is determined by one external inductor.

DESCRIPTION

Silicon double poly MMIC mixer in a 6-lead plastic SOT363 package.

PINNING

PIN	DESCRIPTION
1	LO - GND
2	LO - signal
3	V_S
4	IF - out
5	RF - feedback
6	RF - signal

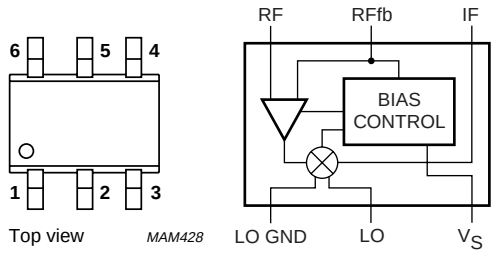


Fig.1 Simplified outline (SOT363) and symbol.

QUICK REFERENCE DATA

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
V_S	supply voltage		2.7	2.8	2.85	V
I_S	supply current		–	6	–	mA
G_{conv}	conversion gain	f_{RF} = 900 MHz	–	6	–	dB
NF	noise figure	f_{RF} = 900 MHz	–	9	–	dB
IP_3	input third order intercept point	f_{RF} = 900 MHz	–	6	–	dBm
	LO – RF isolation	f_{RF} = 900 MHz	–	30	–	dB

LIMITING VALUES

In accordance with the Absolute Maximum Rating System (IEC 134).

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
V_S	supply voltage		–	4	V
I_S	supply current		–	20	mA
P_{LO}	oscillator power	note 1	–	tbf	dBm
P_{RF}	RF power	note 1	–	tbf	dBm
P_{tot}	total power dissipation	$T_s \leq$ tbf °C; note 2	–	60	mW
T_{stg}	storage temperature		−65	+150	°C
T_j	junction temperature		–	150	°C

Notes

1. LO and RF signals always AC coupled; no external DC voltage supplied to pin 1, 2 and 6.
2. T_s is the temperature at the soldering point of the ground tab.

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
$R_{th\ j\text{-}s}$	thermal resistance from junction to solder point	$T_s \leq$ tbf °C; P_{tot} = 17 mW; note 1	tbf	K/W

Note

1. T_s is the temperature at the soldering point of the ground tab.

CHARACTERISTICS

f_{RF} = 900 MHz; f_{LO} = 983 MHz; f_{IF} = 83 MHz; V_S = 2.8 V; P_{LO} = 0 dBm; T_j = 25 °C; unless otherwise specified.

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
f_{LO}	local oscillator frequency		0.5	–	2.5	GHz
f_{RF}	signal frequency	external matching	0.5	–	2.5	GHz
f_{IF}	intermediate frequency		10	–	400	MHz
V_S	supply voltage		2.7	2.8	2.85	V
I_S	supply current		–	6	–	mA
$G_{conv(p)}$	power conversion gain	900 MHz	–	6	–	dB
		1900 MHz	–	6	–	dB
		2.4 GHz	–	6	–	dB
NF	noise figure	DSB; 900 MHz	–	9	–	dB
		DSB; 1900 MHz	–	9	–	dB
		DSB; 2.4 GHz	–	9	–	dB
IP_3	intercept point third order intermodulation	900 MHz; Δf_{RF} = 100 kHz	–	6	–	dBm
		1900 MHz; Δf_{RF} = 100 kHz	–	6	–	dBm
		2.4 GHz; Δf_{RF} = 100 kHz	–	6	–	dBm
	RF – LO isolation		–	–26	–	dB
	LO – RF isolation		–	–30	–	dB
	LO – IF isolation		–	–20	–	dB
	RF – IF isolation		–	–29	–	dB
$VSWR_{LO}$	voltage standing wave ratio on LO input		–	1.5	2	
Z_{IF}	IF output impedance	open collector	–	tbf	–	kΩ

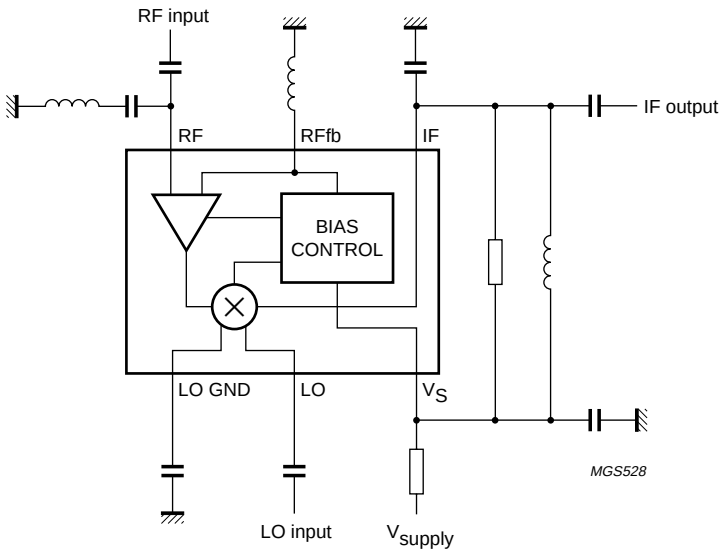
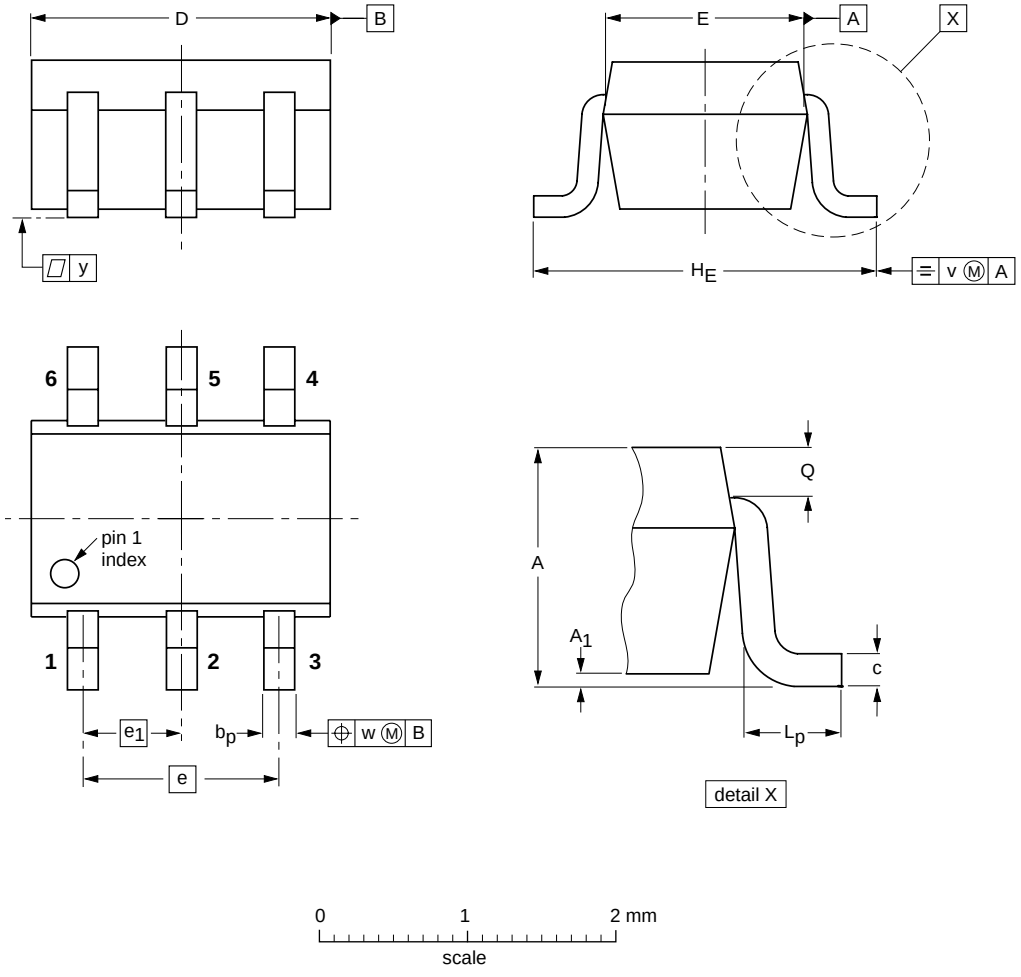


Fig.2 Application diagram (values tbf).

PACKAGE OUTLINE

Plastic surface mounted package; 6 leads **SOT363**



DIMENSIONS (mm are the original dimensions)

UNIT	A	A_1 max	b_p	c	D	E	e	e_1	H_E	L_p	Q	v	w	y
mm	1.1 0.8	0.1	0.30 0.20	0.25 0.10	2.2 1.8	1.35 1.15	1.3	0.65	2.2 2.0	0.45 0.15	0.25 0.15	0.2	0.2	0.1

OUTLINE VERSION	REFERENCES				EUROPEAN PROJECTION	ISSUE DATE
	IEC	JEDEC	EIAJ			
SOT363			SC-88			97-02-28

DEFINITIONS

Data sheet status	
Objective specification	This data sheet contains target or goal specifications for product development.
Preliminary specification	This data sheet contains preliminary data; supplementary data may be published later.
Product specification	This data sheet contains final product specifications.
Limiting values	
Limiting values given are in accordance with the Absolute Maximum Rating System (IEC 134). Stress above one or more of the limiting values may cause permanent damage to the device. These are stress ratings only and operation of the device at these or at any other conditions above those given in the Characteristics sections of the specification is not implied. Exposure to limiting values for extended periods may affect device reliability.	
Application information	
Where application information is given, it is advisory and does not form part of the specification.	

LIFE SUPPORT APPLICATIONS

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